

REMARKS

Previously, claims 1-32 were pending in this continuation application. After the applicant has reviewed the office action from the examiner, the claims have been amended. In this office action, claims 1, 2, 7, 9, 10, 13, 14, 16-18, 20-26, 28-32 are amended, claims 8, 15 are as previously presented, and claims 3-6, 11, 12, 19, 27 are cancelled.

First, the Examiner has rejected the claim to priority of the provisional application for patent, Serial No. 60/454592. The Examiner asserts that claims 1, 9, 10, 11, 12, and 31 lack support for a catalyst. However, the provisional application describes the application of inorganic salts as a cross linking agent that triggers formation of a gel, provisional specification page 8 lines 4-9. The Examiner then asserts that claim 22 lacks support for sodium benzoate. However, the provisional specification page 10 line 1 mentions sodium benzoate as an ingredient in an example formulation. The Applicant respectfully traverses the denial of priority for claims 1, 9, 10, 11, 12, 22, and 31.

Second, the Examiner has objected to claims 1 and 4 regarding informalities. The Applicant has amended claim 1 and cancelled claim 4.

Third, the Examiner has rejected claims 23, 24, 30 as indefinite under 35 U.S.C. 112. The rejection of claim 23 is for lack of antecedent basis which the Applicant has amended to correct. The rejection of claim 24 is for hardness measured in units of A. The A hardness unit comes from the Japanese Industrial Standard, JIS C 2123 now published as JIS K 6249. The A hardness units are measured on a scale from 10 to 70. The A hardness units are incorporated in ISO 7323 and ASTM D2240 standards. And the rejection for claim 30 is for lack of antecedent basis regarding substrate which the Applicant has amended to correct.

Fourth, the Examiner has rejected claims 1-31 over U.S. Pat. Nos. 6,348,534 to Bianco, 5,310,421 to Shapero, an extract from the Merck Index, and an article by Smith for obviousness pursuant to 35 U.S.C. 103(a). Bianco describes a Gel Toy with a toy suspended within a play gel. Bianco describes various ingredients and proportions thereof for forming a gel within a container. The container may take the form of a refrigerator, col. 6 line 61, or lunch box, col. 6 line 18 among others. The gel remains semi-solid above the freezing point of water but does not accept printing thereon. The gel of Bianco uses poly vinyl alcohol as an ingredient. Bianco has at least one salt in the play material and then discloses the groups of alkali metal and alkali earth metal salts. Bianco then mentions a surfactant in the play material. Bianco's surfactant includes sorbitan derivatives and base compounds reacted into a polyol surfactant. Bianco discloses mineral oil used as a lubricant for the play material. Bianco then discloses a flexible composition for children. Bianco also describes child attractive features such as glowing in the dark, fluorescence, perlescent, metallics, and sparkles. And, Bianco describes a play material mostly of water, 70% in claim 10, and poly vinyl alcohol.

On the other hand, the present invention forms a gel initially in a single sphere. Upon usage, the sphere fragments into a plurality of beads of lesser and lesser diameter. The carrageenan used in the present invention has a spherical form that accumulates into beads, not shown in Bianco. The beads allow the gel to accommodate the curves of a limb when the invention is applied for cooling to a person's skins. The present invention also uses inorganic salts as a catalyst to stiffen the carrageen gum for printing upon the container with the gel inside, not shown in Bianco. Further the present invention does not use poly vinyl alcohol as an ingredient. The Applicant has amended claim 12 and cancelled claim 11 to narrow the salts used in the present invention. Regarding claim 32, the Applicant utilizes sorbitol alone as a surfactant for the gel, without combination, reaction, or esterification into polyol or other higher molecules as done in Bianco. The Merck

reference describes sorbitol as avoiding attack by the cold when mixed with acids or alkalis and having a freezing point of approximately -2°C. As before, the Applicant uses sorbitol alone to form a surfactant. Regarding sweeteners and the Smith reference, the Applicant has amended claim 2 and cancelled claims 3-6 to remove sweeteners.

The Applicant though uses mineral oil in claim 23 as a plasticizer mixed with styrenic block copolymers to form the container of the gel rather than within the gel as disclosed in Bianco. Regarding claims 24, 25, the Applicant has a container having a low hardness and a large elongation with the gel locating within the container. The container accommodates printing and later stretching during use. The Applicant has specified hardness and elongation measures of the container, not the gel as in Bianco. Regarding child attractive features in claims 28, 29, the present invention also includes glitter as one of the pigment like additives for the gel. Glitter is not disclosed in Bianco. Regarding claims 31, 32, the Applicant asserts its invention resists freezing below the freezing point of water while using water and sorbitol but not polyvinyl alcohol as ingredients. As removing poly vinyl alcohol from the Bianco formulation takes out a key ingredient, the Applicant asserts that one skilled in the art would not make such an extreme variation in a routine experiment.

Regarding claims 1, 7, 12-17, the Examiner has identified the Shapero patent as obviously showing the claimed subject matter. Shapero describes a play material, similar to Mattel's Play Doh®, including a cross-linking sodium alginate and sodium chloride. Shapero's use of sodium chloride preserves the alginate material and partially stiffens the alginate, col. 4, lines 47-50. The Applicant asserts that sodium alginate has a high viscosity, similar to the slime of the toy industry, and that it does not form beads. Adding sodium chloride to sodium alginate, as in Shapero, thickens the sodium alginate but does not form a gel with sufficient rigidity for printing upon the gel. The present invention though

uses the divalent calcium ion from calcium chloride that replaces sodium from the alginate and displaces water from the mixture to form a gel. As adding sodium chloride thickens an alginate as in Shapero, the Applicant asserts that one skilled in the art would not deduce that a divalent ion forms a gel.

Regarding claim 32, Norton describes an aqueous gel including carrageenan. Carrageenan serves as an ingredient in many foodstuffs, dentifrices, and shampoos. The gel of Norton generally melts at or near body temperature in people, col. 1, lines 14, 26, 36-39. However certain carrageenans have higher melting points, col. 1 lines 43-45. The Norton gel seeks a transitional temperature of 20°C to 35°C, col. 12 line 17. On the other hand, the present invention includes carrageenan within a gel that remains malleable below 0°C. The Applicant asserts that the gel of Norton does not resist freezing with its emphasis on melting points of approximately 37°C. Applicant asserts that food, shampoo, dentifrice, and pharmaceutical gels are nonanalogous art that do not suggest usage of a gel within a deformable container not for human consumption, See *In re Vaeck*, 20 USPQ2d 1438, 1442 (Fed. Cir. 1991). Further, the Applicant asserts that its gel within a container is not foreseen by Norton because Norton is not pertinent to the Applicant's field of invention, See *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 83 USPQ2d 1385, 1392 (US 2007)[alternatives are foreseeable if disclosed in a pertinent prior art in the field of the invention].

The examiner's attention is directed to the case of *KSR Int'l Co. v. Teleflex, Inc.*, 82 U.S.P.Q. 2d 1385 (U.S. 2007). The court discussed that reasons, such as design incentives and market forces, can prompt a person to make a predictable variation upon existing products. *Id.* The reason must prompt a person of ordinary skill to combine the elements from the prior art as done in the claimed invention for it to be obvious. *Id.* at 1396. Here though, Bianco uses polyvinyl alcohol which does not provide a design incentive for an alginate,

Shapero uses sodium chloride, a monovalent ion, which does not provide an incentive for application of a divalent ion of calcium mixed with calcium gel, and Norton's gels dissolving in the body do not provide a design incentive for a gel malleable below 0°C particularly below 2°C. An invention is not found obvious by showing each of its elements existed in the prior art. *Id* at 1396.

The claims now active in this application are believed to be in condition for allowance. Favorable action by the examiner is respectfully requested.

Respectfully submitted,

A large, stylized handwritten signature in black ink, likely belonging to Paul M. Denk, is written over the signature line and extends into the contact information area.

Paul M. Denk
Attorney for Applicant
Pat. Off. Reg. No. 22,598
763 South New Ballas Road, Ste. 170
St. Louis, Missouri 63141
(314) 872-8136